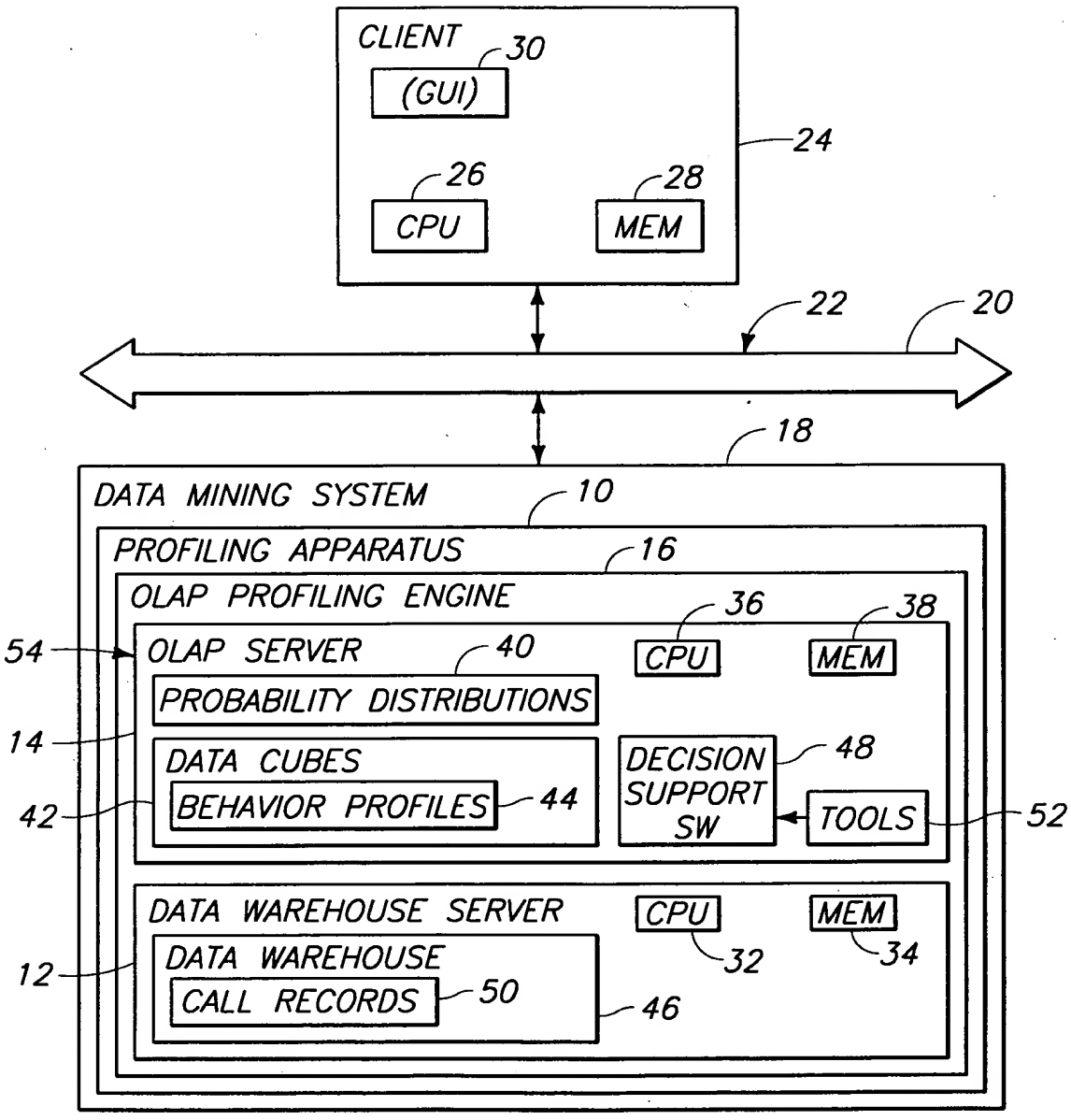
CLIENT
30
(GUI)
24
26
CPU
28
MEM
22
20
18
DATA MINING SYSTEM
10
PROFILING APPARATUS
16
OLAP PROFILING ENGINE
36
38
54
OLAP SERVER
40
CPU
MEM
PROBABILITY DISTRIBUTIONS
14
DATA CUBES
48
DECISION SUPPORT SW
42
BEHAVIOR PROFILES
44
TOOLS
52
DATA WAREHOUSE SERVER
CPU
MEM
32
34
12
DATA WAREHOUSE
CALL RECORDS
50
46

FIG. 1

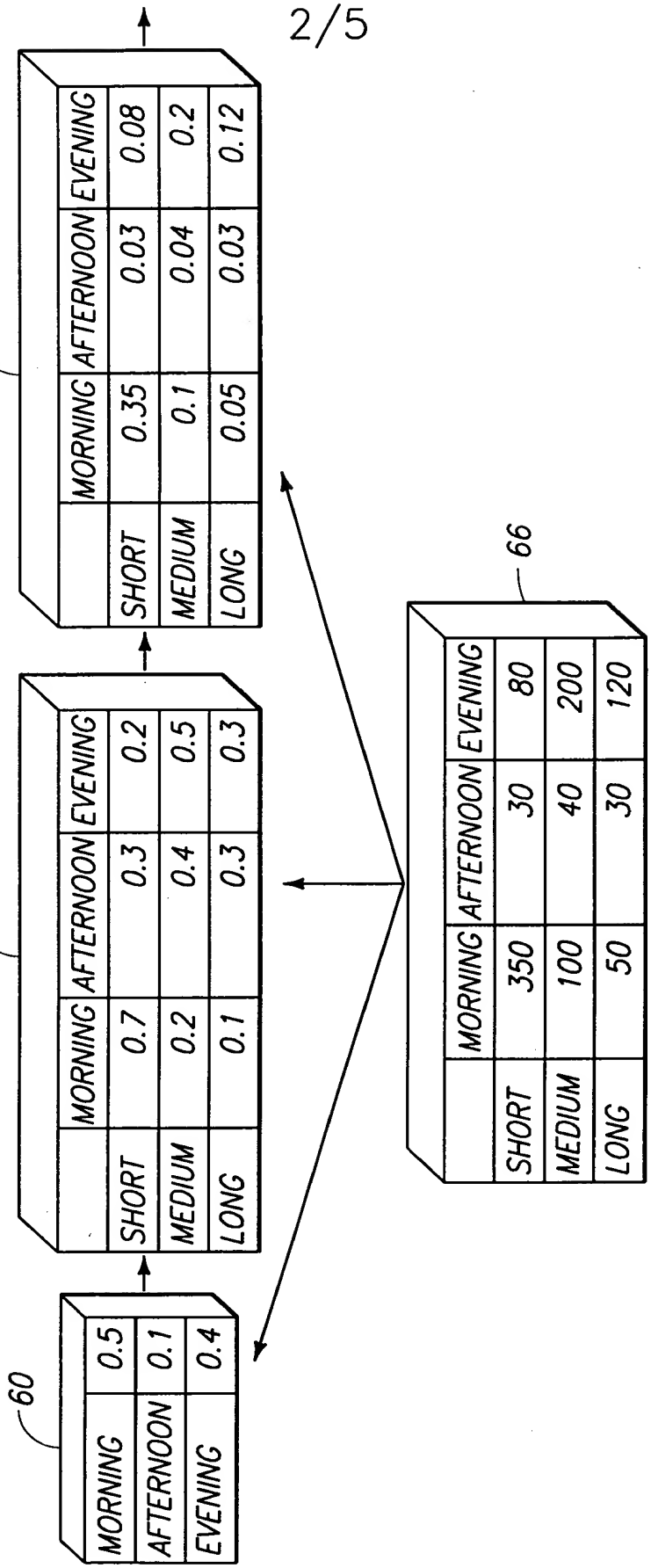
60
MORNING 0.5
AFTERNOON 0.1
EVENING 0.4
62
MORNING AFTERNOON EVENING
SHORT 0.7 0.3 0.2
MEDIUM 0.2 0.4 0.5
LONG 0.1 0.3 0.3
64
MORNING AFTERNOON EVENING
SHORT 0.35 0.03 0.08
MEDIUM 0.1 0.04 0.2
LONG 0.05 0.03 0.12
66
MORNING AFTERNOON EVENING
SHORT 350 30 80
MEDIUM 100 40 200
LONG 50 30 120

FIG 2

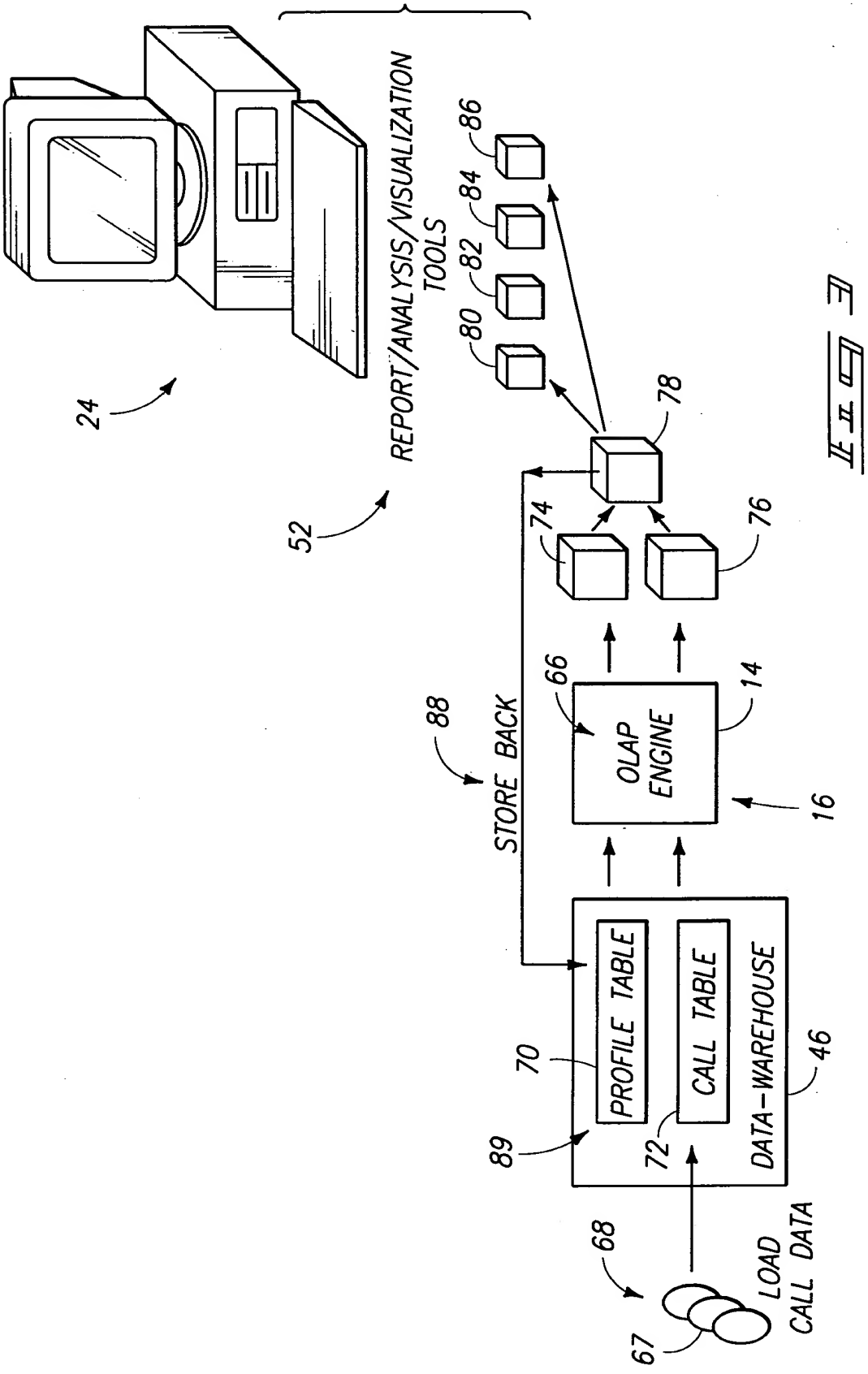
24
52
REPORT/ANALYSIS/VISUALIZATION TOOLS
80
82
84
86
78
74
76
66
OLAP ENGINE
14
16
88
STORE BACK
70
PROFILE TABLE
CALL TABLE
72
89
DATA-WAREHOUSE
46
68
67
LOAD CALL DATA

FIG 3

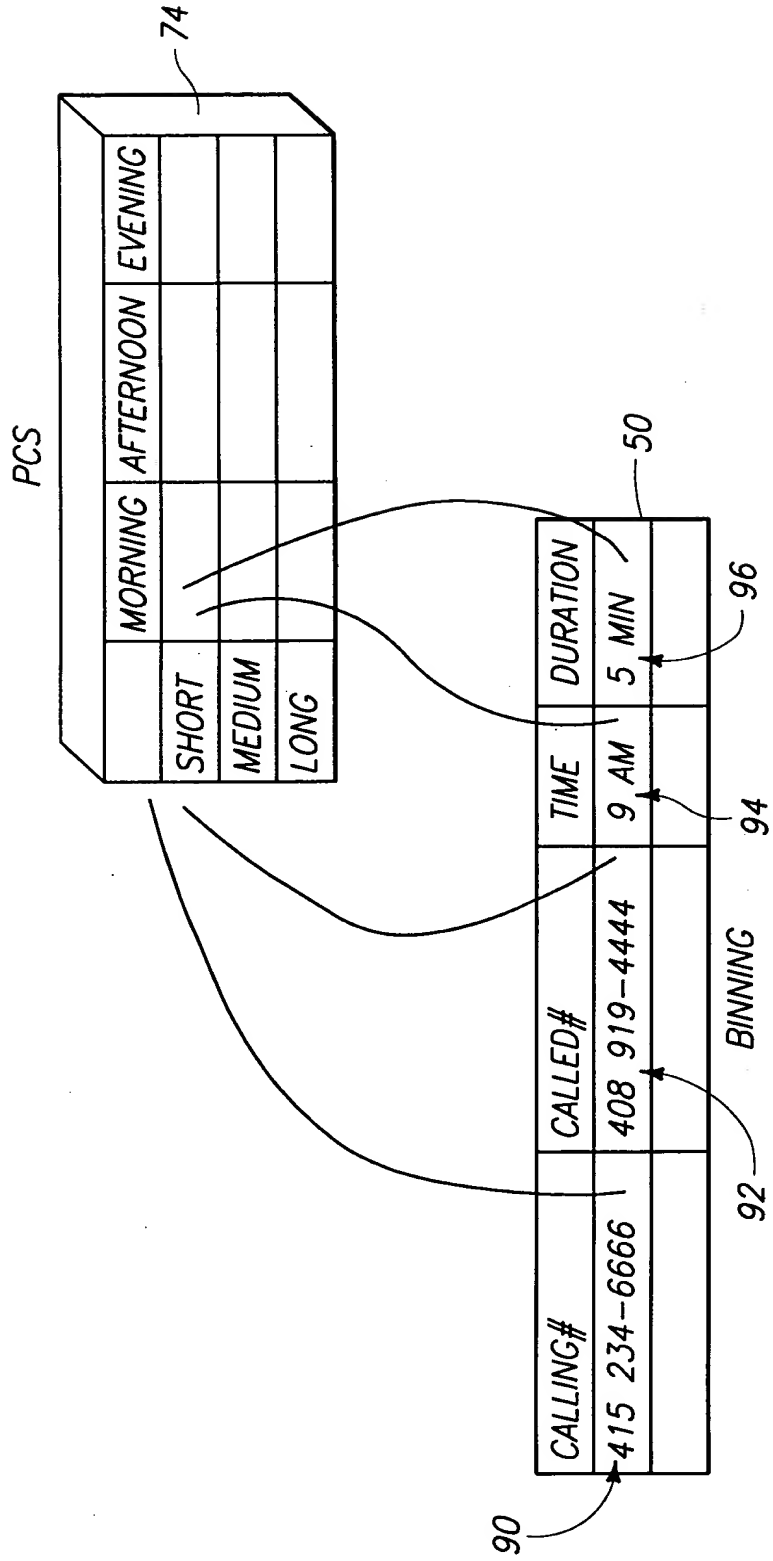
74
PCS
MORNING
AFTERNOON
EVENING
SHORT
MEDIUM
LONG
50
DURATION
5 MIN
TIME
9 AM
CALLED#
408 919-4444
CALLING#
415 234-6666
BINNING
90
92
94
96

Fig 4

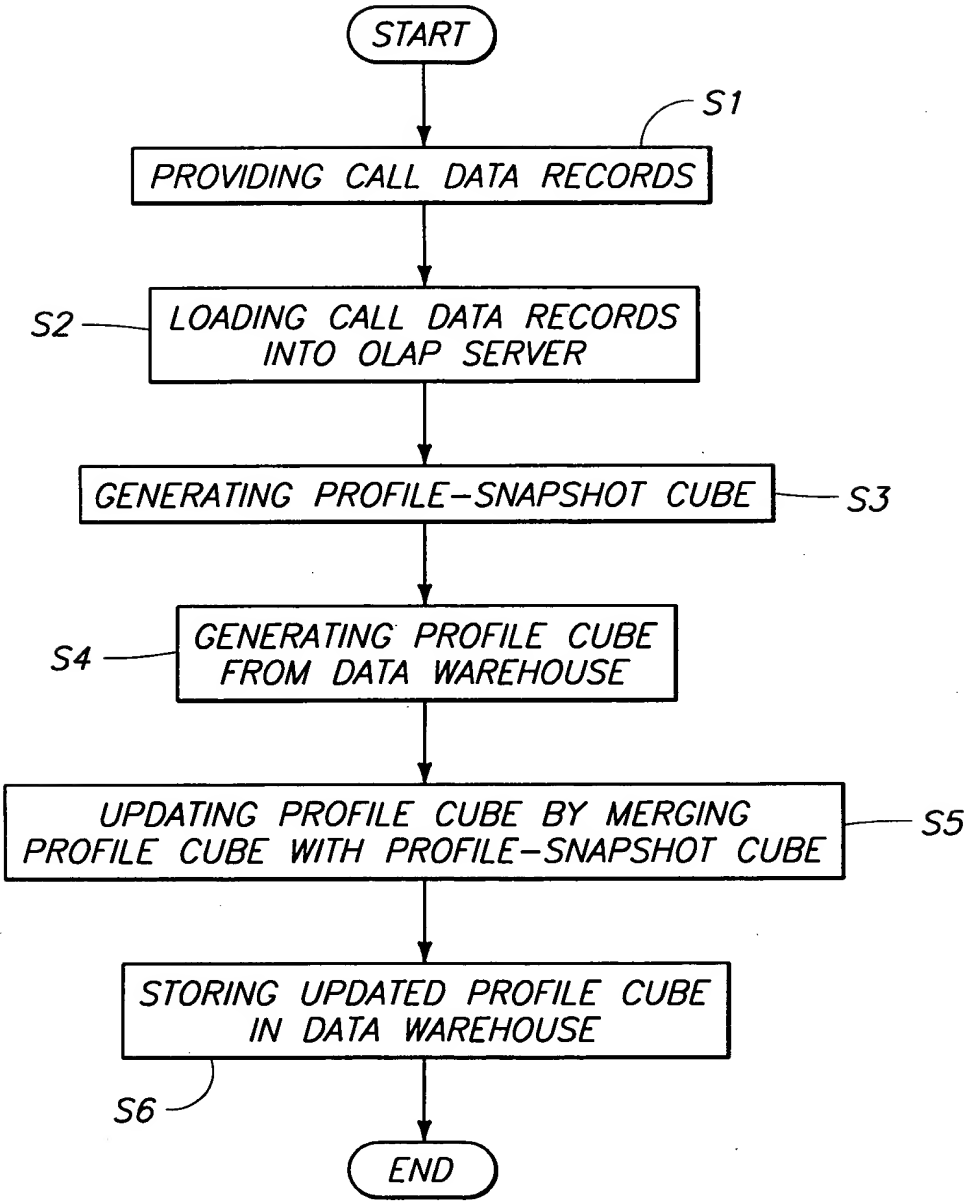
START
S1
PROVIDING CALL DATA RECORDS
S2
LOADING CALL DATA RECORDS INTO OLAP SERVER
GENERATING PROFILE-SNAPSHOT CUBE
S3
S4
GENERATING PROFILE CUBE FROM DATA WAREHOUSE
UPDATING PROFILE CUBE BY MERGING PROFILE CUBE WITH PROFILE-SNAPSHOT CUBE
S5
STORING UPDATED PROFILE CUBE IN DATA WAREHOUSE
S6
END

Fig 5